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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,472	11/08/2001	Richard P. Mackey	42390P12248	3598
8791	7590	09/27/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			HUYNH, KIM T	
			ART UNIT	PAPER NUMBER
			2112	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,472

Applicant(s)

MACKEY ET AL.

Examiner

Kim T. Huynh

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

RD

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the request filed on 20th of July 2005 for a request for continued examination (RCE) under 37 CFR 1.114 based on the application No. 10/007472, which the request is acceptable and an RCE has been established. Currently, claims 1-29 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski et al. (Pub. No US20010037426) in view of Miller (US Patent 6,604,161)

As per claim 1. Pawlowski discloses a system comprising:

- a controller responsive to interrupt signals received on one or more interrupt signal inputs; [0025],[0034]
- an interrupt message receiver coupled to the one or more interrupt signal inputs; and [0042]
- a plurality of interrupt sources to transmit interrupt messages to the interrupt message receiver through a data bus, wherein the interrupt message receiver further comprises logic to initiate interrupt signals on the

one or more interrupt signal inputs in response to receipt of interrupt messages from the data bus. [0032-0034]

Pawlowski discloses all the limitations as above except a bridge coupled to the data bus, the bridge at least capable of allowing one or more of the interrupt sources to transmit error messages to the interrupt receiver through the data bus. However, Miller discloses the request transactions are received by a bridge via a Peripheral component interconnect bus from interrupt sources. The bridge then encode the transactions and the interrupts with the source and destinations and translates them into packets. Then the bridge device flags the packet having errors. The controller coupled the bridge checks the request packets for the error flag.(col.2, lines 46-56)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Miller's teaching into Pawlowski's system so as to prevent the system from generating false interrupts due to write errors. (col.2, lines 8-16)

As per claims 9, 16, 23, Pawlowski discloses a method comprising:

- receiving interrupt messages on a data bus from a plurality of interrupt sources; and [0035-0036]
- selectively initiating interrupt signals to a controller on one or more interrupt signal inputs in response to each received interrupt message.[0039-0040]

Pawlowski discloses all the limitations as above except wherein receiving the interrupt messages comprises receiving one or more of the interrupt messages through a bridge coupled to the data bus. However, Miller discloses the request transactions are received by a bridge via a Peripheral component interconnect bus from interrupt sources. The bridge then encode the transactions and the interrupts with the source and destinations and translates them into packets. Then the bridge device flags the packet having errors. The controller coupled the bridge checks the request packets for the error flag.(col.2, lines 46-56)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Miller's teaching into Pawlowski's system so as to prevent the system from generating false interrupts due to write errors. (col.2, lines 8-16)

As per claims 2, 10, 17, 24, Pawlowski discloses wherein the interrupt message receiver comprises logic to decode each interrupt message in response to receipt of one or more write transactions received from the data bus. [0033-0034]

As per claims 3, 11, 18, 25, Pawlowski discloses wherein the system further comprises a register of bits, each interrupt source corresponding with one bit, and wherein the interrupt message receiver comprises logic to set a bit in response to receipt of an interrupt message from an interrupt source corresponding with the bit and wherein the controller comprises logic to clear the bit in response to completion of servicing an interrupt associated with the

interrupt message. [0042],[0056]

As per claims 4, 12, 19, 26, Pawlowski discloses wherein the controller comprises a first interrupt signal input to receive an IRQ interrupt signal and a second interrupt signal input to receive a FIQ interrupt signal. [0032-0033]

As per claims 5, 13, 20, 27, Pawlowski discloses wherein controller comprises logic to service interrupts in response to interrupt signals received on the one or more interrupt signal inputs the system further comprises an interrupt controller comprising:

- logic to maintain a record of at least one unserviced interrupt message received at the interrupt message receiver from an interrupt source; and [0032]
- logic to initiate an interrupt signal on an interrupt signal input in to service the unserviced interrupt message in response to completion of an interrupt service by the controller. [0056]

As per claims 6, 14, 21, 28, Pawlowski discloses wherein the interrupt controller further comprises:

- logic to define a priority for one or more interrupt sources; [0039]
- logic to maintain a queue of unserviced interrupt messages based upon the priority; and [0039-0040]
- logic to select an unserviced interrupt message from the queue in response to completion of an interrupt service by the controller. [0056]

As per claims 7, 15, 22, 29, Pawlowski discloses wherein the interrupt controller further comprises a plurality of interrupt signal inputs and the interrupt controller further comprises:

- logic to associate each interrupt source with an interrupt signal input;
[0033]
- logic to maintain a queue of unserved interrupt messages for each interrupt signal input, each unserved interrupt messages being received from an interrupt source associated with the interrupt signal input; and
[0032]
- logic to select an unserved interrupt message from a queue in response to completion of an interrupt service initiated at the interrupt signal input associated with the queue. [0056]

As per claims 8, Pawlowski discloses wherein the system comprises a plurality of controllers, each controller comprising one or more interrupt signal inputs, and wherein the interrupt message receiver is coupled to each interrupt signal input of the controllers.[0035-0036]

Response to Amendment

4. Applicant's amendment filed on 7/20/05 have been fully considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571)272-3635 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 9.00AM- 6:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached at (571)272-3676 or via e-mail addressed to [rehana.perveen@uspto.gov].

The fax phone numbers for the organization where this application or proceeding is assigned are (571)273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.



Kim Huynh

September 22, 2005

Khanh Dang
Primary Examiner